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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/538,995	12/20/2005	Sigurd Buchholz	CH8368/LeA 35,790	9453

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Law and Intellectual Property Department
Lanxess Corporation
111 RIDC Park West Drive
Pittsburgh, PA 15275-1112

EXAMINER

KOSACK, JOSEPH R

ART UNIT	PAPER NUMBER
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1626

MAIL DATE	DELIVERY MODE
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06/22/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/538,995	Applicant(s) BUCHHOLZ ET AL.	
	Examiner Joseph Kosack	Art Unit 1626	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>2 on 9/29/06</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-12 are pending in the instant application.

Amendments

The amendment filed March 15, 2007 has been acknowledged and has been entered into the application file.

Election/Restrictions

Applicant's election with traverse of Group II in the reply filed on March 15, 2007 is acknowledged. The traversal is on the ground(s) that the classification of the different groups substantially overlap and there is no search burden. This is not found persuasive because search burden and classification is not a consideration for a lack of unity requirement as it is for restriction under 35 U.S.C. 121. Claims 1-10 and 12 (all in part) are withdrawn under 37 CFR 1.142(b) as being drawn to a non-elected invention.

The requirement is still deemed proper and is therefore made FINAL.

Priority

The claim to priority as a 371 filing of PCT/EP03/13679 filed December 4, 2003 which claims priority to DE 102 58 588.1 filed December 16, 2002 is acknowledged in the instant application. It is requested that applicant amend the first line of the specification to include the 371 continuity data.

Information Disclosure Statement

The Information Disclosure Statements filed on September 29, 2006 have been considered fully by the Examiner.

Claim Rejections - 35 USC § 112

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The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 1-10 and 12 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The claims are drawn to the thermal decarboxylation of all dicarboxylic acids when the process is only shown to work with 3,4-dialkoxy-2,5-dicarboxylic acid thiophenes. Therefore, Applicant has not taught a relative number of working examples to show possession of the entire invention as claimed. While working examples are not required, they are integral in showing possession of general chemical processes in that each compound will behave differently in a process as it has different characteristics. This rejection can be overcome by deleting the non-supported subject matter from the claims.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-12 rejected under 35 U.S.C. 103(a) as being unpatentable over Rauchschalbe et al. (US PG PUB 2001/0034453) in view of Merz et al. (*Journal fur praktische Chemie*, 1996, 672-674).

The instant application is drawn to a process for decarboxylating dicarboxylic acids thermally with the aid of copper carbonate as a catalyst. The process forgoes any solvent and is set up to proceed in a continuous process.

Determination of the scope and content of the prior art (MPEP §2141.01)

Rauchschwalbe et al. teach a process for decarboxylating 3,4-dialkoxy-2,5-dicarboxylic acid thiophenes by heating around 140° C in a sulfolane solvent in the presence of copper carbonate. See Example 4, page 3, paragraphs 47 and 48.

Ascertainment of the difference between the prior art and the claims (MPEP §2141.02)

Rauchschwalbe et al. do not teach the process without a solvent and the details of the continuous process.

Finding of prima facie obviousness--rational and motivation (MPEP §2142-2413)

Merz et al. teach the process for decarboxylating without the use of a solvent. See page 673, column 2. The courts have consistently ruled that the use of a continuous method vs. a batch process is nonobvious. See In re Giolito, 188 USPQ 645. Therefore, the exact details of the mechanics to carry out the continuous version of a batch process would be obvious to those of skill in the art of industrial scale processes with a reasonable expectation of success. The motivation to combine the references is that performing a reaction without a solvent is cost-effective and leads to a less toxic or more green process.

Thus, the claimed invention as a whole was *prima facie* obviousness over the combined teachings of the prior art.

Conclusion

Claims 1-12 are rejected. Claims 1-10 and 12 are objected to.

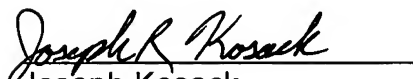
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Kosack whose telephone number is (571)-272-

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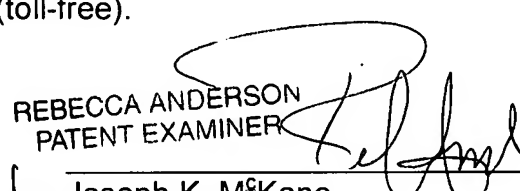
5575. The examiner can normally be reached on M-F 6:30 A.M. until 4:00 P.M. The examiner has every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph M^cKane can be reached on (571)-272-0699. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Joseph Kosack
Patent Examiner
Art Unit 1626

REBECCA ANDERSON
PATENT EXAMINER


Joseph K. M^cKane
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